

IN THE CLAIMS:

Please cancel claims 1-28 without prejudice.

1 1-28 (Cancelled)

Please add new claims 29 et seq., as follows:

1 29. (New) A method for accessing a data storage system, comprising:
2 maintaining a virtual logical unit assigned to a specific client;
3 receiving a log in request from the specific client, the log in request directed to the
4 virtual logical unit;
5 initiating, in response to the log in request, a logical unit number map (lun map)
6 from the virtual logical unit to one or more physical logical units, the specific client hav-
7 ing permission to access the physical logical units indicated by the lun map, the map pre-
8 senting one or more client specific lun numbers mapped to one or more physical lun
9 numbers utilized by the storage operating system;
10 exporting the client specific lun numbers to the client; and
11 receiving a data access request from the client, the request directed to a selected
12 client specific lun, and translating the client specific lun by the map into a selected physi-

13 cal lun number, the physical lun number accessing a physical logical unit supporting the
14 client specific lun.

1 30. (New) The method of claim 29, further comprising:

2 generating the lun map to have a set of ordered pairs mapping one or more virtual
3 luns to one or more physical luns.

1 31. (New) The method of claim 29, further comprising:

2 exporting a virtual lun number to the client; and
3 associating a physical lun number with the storage system.

1 32. (New) The method of claim 29, further comprising:

2 identifying a set of luns that the client may access in response to the client logging
3 in by,

4 (a) selecting a lun data structure;

5 (b) searching through a list of client identifiers in the lun data structure to identify
6 whether the client may access the selected lun;

7 repeating steps (a) and (b) for each lun data object associated with a given storage sys-
8 tem; and

9 accessing, in response to a client data access request, a lun data object by use of
10 the lun map and without searching the lun data structure.

1 33. (New) The method of claim 29, further comprising:
2 accessing a set of lun data structures associated with the storage system in identi-
3 fying the one or more physical logical units which the client has permission to access.

1 34. (New) The method of claim 29, further comprising:
2 using as a world wide name as a client identifier.

1 35. (New) The method of claim 29, further comprising:
2 using a Fibre Channel switching network for the client to access the data storage
3 system.

1 36. (New) The method of claim 29, further comprising:
2 using an Ethernet switching network for the client to access the data storage sys-
3 tem.

1 37. (New) The method of claim 29, further comprising:
2 using a multi-protocol storage appliance as the data storage system.

1 38. (New) The method of claim 29, further comprising:
2 exporting a set of virtual luns to the client as a set of accessible luns.

1 39. (New) The method of claim 29, further comprising:

2 containing the lun map within an initiator data structure accessible to the virtual
3 logical unit.

1 40. (New) A data storage system, comprising:

2 a virtual logical unit assigned to a specific client;

3 a log in request received from the specific client, the log in request directed to the
4 virtual logical unit;

5 a logical unit number map (lun map) initiated, in response to the log in request,
6 the map mapping from the virtual logical unit to one or more physical logical units, the
7 specific client having permission to access the physical logical units indicated by the lun
8 map, the map presenting one or more client specific lun numbers mapped to one or more
9 physical lun numbers utilized by the storage operating system;

10 the client specific lun numbers exported to the client; and

11 a data access request received from the client, the request directed to a selected
12 client specific lun, and translating the client specific lun by the map into a selected physi-
13 cal lun number, the physical lun number accessing a physical logical unit supporting the
14 client specific lun.

1 41. (New) The data storage system of claim 40, further comprising:

2 the lun map having a set of ordered pairs mapping one or more virtual luns to one
3 or more physical luns.

1 42. (New) The data storage system of claim 40, further comprising:

2 exported a virtual lun number to the client; and

3 a physical lun number associated with the storage system.

1 43. (New) The data storage system of claim 40, further comprising:

2 a set of luns that the client may access identified in response to the client logging
3 in by,

4 (a) selecting a lun data structure;

5 (b) searching through a list of client identifiers in the lun data structure to identify
6 whether the client may access the selected lun;

7 repeating steps (a) and (b) for each lun data object associated with a given storage sys-
8 tem; and

9 a client data access request to access a lun data object by use of the lun map and
10 without searching the lun data structure.

1 44. (New) The data storage system of claim 40, further comprising:

2 a set of lun data structures associated with the storage system accessed in identify-
3 ing the one or more physical logical units which the client has permission to access.

1 45. (New) The data storage system of claim 40, further comprising:

2 a world wide name used as a client identifier.

1 46. (New) The data storage system of claim 40, further comprising:
2 a Fibre Channel switching network used for the client to access the data storage
3 system.

1 47. (New) The data storage system of claim 40, further comprising:
2 an Ethernet switching network used for the client to access the data storage sys-
3 tem.

1 48. (New) The data storage system of claim 40, further comprising:
2 a multi-protocol storage appliance used as the data storage system.

1 49. (New) The data storage system of claim 40, further comprising:
2 a set of virtual luns exported to the client as a set of accessible luns.

1 50. (New) The data storage system of claim 40, further comprising:
2 the lun map contained within an initiator data structure accessible to the virtual
3 logical unit.

1 51. (New) A computer readable media, comprising:
2 said computer readable media containing instructions for execution on a processor
3 for accessing a data storage system, the data storage system having the steps of,
4 maintaining a virtual logical unit assigned to a specific client;

5 receiving a log in request from the specific client, the log in request directed to the
6 virtual logical unit;
7 initiating, in response to the log in request, a logical unit number map (lun map)
8 from the virtual logical unit to one or more physical logical units, the specific client hav-
9 ing permission to access the physical logical units indicated by the lun map, the map pre-
10 sented one or more client specific lun numbers mapped to one or more physical lun
11 numbers utilized by the storage operating system;
12 exporting the client specific lun numbers to the client; and
13 receiving a data access request from the client, the request directed to a selected
14 client specific lun, and translating the client specific lun by the map into a selected physi-
15 cal lun number, the physical lun number accessing a physical logical unit supporting the
16 client specific lun.